

The Post-Oak Locust (*Dendrotettix quercus*) at Mount Misery, New Jersey, in 1944 (Orthoptera, Acrididae)

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In 1938 John W. H. Rehn and I¹ presented a series of observations on a serious outbreak of the Post-Oak Locust (*Dendrotettix quercus*) in the Mount Misery section of New Jersey, on the Ocean-Burlington County line. In the same paper we reviewed our knowledge of the occurrence of this potentially destructive species in the eastern United States, and also discussed its dimorphism in wing-length.

In a letter under date of July 6, 1944, Dr. Emlen P. Darlington, to whose interest and cooperation we owed the opportunity to study the 1936 outbreak, advised me that in company with Supervisor J. P. Allen, of the Lebanon State Forest, he had made a preliminary survey of a *Dendrotettix* infestation in that forest, and that he was mailing me some material then taken. He said the greatest infestation was in the neighborhood of that of 1936. On July 26 I visited the outbreak area with Dr. Darlington and Supervisor Allen, travelling approximately eight miles within the state forest boundaries.

The general area of infestation was found to be essentially the same as in 1936, both from our observations then and Supervisor Allen's more regular and critical check-ups in the course of his periodic inspections. The occurrences were spotty, apparently governed by a preference for chestnut oak and similar species, but avoiding scrub oaks. The injury already done was very great in a number of places, trees and some saplings being almost completely defoliated, and the ground conspicuously covered with droppings. The insects by that date, however, were not abundant, being locally common but in no degree as numerous as on August 1, 1936. Some were mating, very few climbing upwards as was so noticeable in 1936, and others, particularly females, were resting quietly on

¹ Trans. Amer. Entom. Soc., LXIV, pp. 79-95, pls. V-VI.

the bark of pines distributed through the oaks. All seen were brachypterous except for three macropterous individuals, two of which, a male and a female, found far apart, were captured.

There was no ocular evidence of oviposition, and none of the more than a score of females taken and eviscerated had as yet any very considerable number of fully formed eggs. Two maggots, presumably of *Sarcophaga atlanis* Aldrich,² were found in my cyanide bottles when the sixty or so collected specimens were dumped, and one female, when eviscerated, contained a single maggot.

Some weeks after my 1944 visit to the Mt. Misery area a letter from Dr. Darlington (dated August 19) advised me that chestnut oaks and other oaks "along the old Browns Mills-Pointville road at the Fort Dix boundary, about one mile north of Browns Mills" had had their foliage denuded. No locusts were found then, "but the work had all the evidence of *Dendrotettix quercus* infestation, comparable to that at the Lebanon State Forest." Further Dr. Darlington added, "the trees which were three-fourths or more denuded covered about an acre . . . with some scattered areas in the borders." This indicated an additional 1944 outbreak area approximately six miles northwest of those within the Lebanon State Forest from which our observations had chiefly been drawn.

Whether the periodic outbreaks of *Dendrotettix* in the New Jersey pine-barrens are regularly cyclic, which seems less probable, or are due to the relative absence of inhibiting control factors which we as yet do not understand, remains to be determined. Certainly parasitism plays a definite part in the picture, as past evidence shows. The injury this species inflicts in its mass outbreaks on the more desirable species of oaks in the pine-barrens is serious, even if over a limited area, as the defoliation is so severe it is often followed by the death of the trees involved.

I wish to thank Supervisor Allen and Dr. Darlington for their kindness in calling this outbreak to my attention, and also for their assistance at the time of my visit on July 26.

² See Rehn and Rehn, *idem*, p. 88.